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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,203	07/17/2003	Ayub M. Fathimulla	ET-8	1073

7590 02/14/2005
Hung Chang Lin
8 Schindler Ct.
Silver Spring, MD 20903

EXAMINER

FORDE, REMMON R

ART UNIT PAPER NUMBER

2826

DATE MAILED: 02/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/621,203

Applicant(s)

FATHIMULLA ET AL.

Examiner

Remmon R. Fordé

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) 1-13, 17 and 20-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-16, 18, 19 and 41-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Elections

Applicant's election with traverse of claims 14-16, 18 and 19 in correspondence dated 06/25/2004 is acknowledged. In addition, the Examiner hereby re-acknowledges the election with traverse of claims 1-16 and 18-25 in correspondence dated 01/26/2004. However, in both elections with traverse the Applicant failed to distinctly and specifically point out any alleged errors in the election requirement. Therefore, both elections will be treated as elections without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-16, 18, 19 and 41-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chandrasekhar in view of Raj et al..

Referencing Figures 1 and 2, Chandrasekhar discloses a monolithic photoreceiver (100) provided with a common substrate (16); vertically integrated optical converters (12) (i.e. PIN diode) and monolithically integrated TIA, control and decision

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circuits (18). Chandrasekhar further discloses providing a preamplifier (14) made of one or more HBTs on the common substrate (16). (Column 1, line 66 – Column 3, line 50.)

Chandrasekhar fails to disclose providing vertically integrated cavity surface emitting lasers (VCSEL) as optical preamplifiers on the same common substrate (16).

However, referencing Figures 1 and 2, Raj et al. discloses a vertically integrated cavity surface emitting laser (VCSEL) (i.e. Fabry-Perot resonator) for use as an optical preamplifier wherein top Distributed Bragg Reflector (DBR) stacks (M1) act as an integrated filter. Raj et al. further teaches that the size and the vertical structure of the Fabry-Perot resonator are essentials for obtaining bi-dimensional arrays with a very high integration density. (Column 4, lines 26-30 and Column 6, line 33 – Column 7, line 38.)

Since Chandrasekhar and Raj et al. are both from the same field of endeavor, the purpose disclosed by Raj et al. would have been recognized in the pertinent of Chandrasekhar.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to replace the preamplifiers made of HBTs as disclosed by Chandrasekhar with the Fabry-Perot resonator as disclosed by Raj et al. because Raj et al. teaches that the size and the vertical structure of the Fabry-Perot resonator are essentials for obtaining bi-dimensional arrays with a very high integration density. (Column 4, lines 26-30 and Column 6, line 33 – Column 7, line 38.)

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Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Olbright et al., Lovejoy et al., Swirhum et al. and Chu et al. each disclose optoelectronic integrated circuits.

Tastavridis discloses semiconductor optical amplifiers.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Remmon R. Fordé whose telephone number is (571) 272-1916. The examiner can normally be reached on Monday-Thursday (8:00-6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Remmon R. Fordé


NATHAN J. FLYNN
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